

# **MORRO BAY POWER PLANT MODERNIZATION PROJECT (SCC 2005-01) PSD PERMIT CONDITIONS**

## **PROJECT DESCRIPTION**

The Morro Bay Power Plant Modernization Project consists, in part, of replacing four existing 1950/1960-era fossil-fuel-fired electric utility steam generators (1002 megawatt [MW] total) with two combined cycle gas turbine block units. Each new block unit will be capable of producing 600 MW. Each new block unit will consist of two General Electric Frame 7 Model PG7241, 180 MW gas-fired turbines, two heat recovery steam generators with duct burners, and one 240 MW steam turbine.

## **PERMIT CONDITIONS**

### **I. Permit Expiration**

As provided in 40 CFR § 52.21(r), this PSD Permit shall become invalid if construction:

- A. is not commenced (as defined in 40 CFR § 52.21(b)(9)) within 18 months after the approval takes effect; or
- B. is discontinued for a period of 18 months or more; or
- C. is not completed within a reasonable time.

### **II. Notification of Commencement of Construction and Startup**

The Permittee must notify EPA in writing of the anticipated date of initial startup of the Morro Bay Power Plant Modernization Project ("Facility") not more than sixty (60) days nor less than thirty (30) days prior to such date and must notify EPA in writing of the actual date of commencement of construction and startup within fifteen (15) days after each has occurred. For all purposes of this permit, "initial startup" shall mean the setting in operation of an affected facility for any purpose. "Affected facility" is further defined as any apparatus, equipment, or emission unit subject to a standard in this permit or in the applicable Performance for New Stationary Sources regulations found at 40 CFR Part 60, Subparts A, Da, and KKKK.

### **III. Facility Operation**

All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit must at all times be maintained in good working order and be operated as intended so as to minimize air pollutant emissions.

### **IV. Malfunction**

The Permittee must notify EPA by facsimile or electronic mail transmission within two (2) working days following the discovery of any failure of process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in Section IX of this permit. In addition, the Permittee must notify EPA in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in Section IX, and the methods used to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or of any law or regulation that such malfunction may cause.

### **V. Right to Entry**

The EPA Regional Administrator, and/or his authorized representative, upon the presentation of credentials, must be permitted:

- A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this permit;
- B. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit;
- C. to inspect any equipment, operation, or method required in this permit;  
and
- D. to sample emissions from the source.

### **VI. Transfer of Ownership**

In the event of any changes in control or ownership of the facilities to be constructed, the permit is binding on all subsequent owners and operators. The Permittee must notify the succeeding owner and operator of the existence of this permit and its conditions by letter, a copy of which must be forwarded to EPA.

## **VII. Severability**

The provisions of this permit are severable, and, if any provision of this permit is held invalid, the remainder of this permit shall be unaffected.

## **VIII. Other Applicable Regulations**

The Permittee must construct and operate the proposed power plant modernization project in compliance with all other applicable provisions of 40 CFR Parts 51, 52, 60, 63, 72 through 75, and all other applicable federal, state, and local air quality regulations.

## **IX. Special Conditions**

### **A. Performance Tests**

1. Within 60 days after achieving maximum load, but no later than 180 days after initial startup, and annually thereafter (within 30 days of the anniversary of the initial performance test), the Permittee must conduct performance tests (as described in 40 CFR § 60.8) for PM<sub>10</sub> on the exhaust stack gases for the combustion turbine generators. The Permittee must furnish EPA a written report of the results of such tests within thirty (30) days of the completion of each test. After initial performance tests, upon written request from the Permittee, and with adequate justification, EPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity.
2. The performance tests required by Section IX.A.1. of this permit must be performed in accordance with the test methods set forth in 40 CFR § 60.8 and 40 CFR Part 60, Appendix A, as modified below. Performance tests for the emissions of PM<sub>10</sub> shall be conducted using EPA Methods 5 and 202.

In lieu of the above-mentioned test methods, the Permittee may use equivalent methods with prior written approval from EPA.

The Permittee must notify EPA in writing at least thirty (30) days prior to such tests to allow time for the development of an approvable performance test plan and to arrange for an observer to be present at the test.

3. For performance test purposes, sampling ports, platforms, and access must be provided by the Permittee on the emission unit exhaust system in accordance with 40 CFR § 60.8(e).

**B. Emission Limits for PM<sub>10</sub>**

1. The Permittee shall restrict fuel use for the operation of the combustion turbines and supplemental duct firing to pipeline-quality natural gas with a sulfur content of no more than 0.25 grains per 100 scf on a twelve-month rolling average basis.
2. On and after the date of initial startup, the Permittee shall not discharge or cause the discharge of PM<sub>10</sub> from each combustion turbine generator in excess of 11.0 lbs/hr (no duct burner firing) or 13.3 lbs/hr (with duct burner firing).
3. On and after the date of initial startup, the Permittee shall not discharge or cause the discharge of PM<sub>10</sub> from all four combustion turbine generators combined in excess of 203.2 tons per year on a twelve-month rolling average basis.

**C. Fuel Sampling**

The Permittee shall take monthly samples of the natural gas combusted. The samples shall be analyzed for sulfur content using EPA- or San Luis Obispo County Air Pollution Control District-approved laboratory methods. The sulfur content test results shall be retained on site pursuant to Special Condition IX.E.

**D. Hours of Operation Restriction – Duct Burners**

For each combustion turbine generator, the duct burner shall be fired no more than 4,000 hours per year (twelve-month rolling average basis).

**E. Reporting and Record Keeping**

1. The Permittee must maintain a file of all records, data, measurements, reports, and documents related to the operation of the Facility, including, but not limited to, the following: all records or reports pertaining to adjustments and/or maintenance performed on any system or device at the Facility; all records relating to performance tests; and all other information required by this permit recorded in a permanent form suitable for inspection. The file must be retained for five years following the date of such measurements, maintenance, reports, and/or records.
2. For each combustion turbine generator, the Permittee shall maintain an onsite log containing the following information:

- a. All startups and shutdowns of the gas turbine including date, time, and total duration of each occurrence.
- b. Firing hours and fuel flow rates for the gas turbine and duct burner.

**F. New Source Performance Standards**

The proposed Facility is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR Part 60). The Permittee must meet all applicable requirements of 40 CFR Part 60, Subparts A, Da, and KKKK of this regulation.

**G. Ambient PM<sub>10</sub> Monitoring**

Twenty-four (24) months prior to the first firing of the first combustion turbine generator or ninety (90) days following California Energy Commission approval of 00-AFC-12, whichever is later, the Permittee shall submit a plan for performing ambient air monitoring, and shall obtain EPA approval for that monitoring. The plan shall provide for air monitoring at two separate locations in the surrounding area, to be performed by an EPA-approved third party. Continuous parameters measured at each location shall include surface wind speed and direction. 24-hour particulate matter samples 10 microns or less in size (PM<sub>10</sub>) shall be taken on the standard 1 day in 6 schedule at each site. The monitoring locations will be selected, subject to EPA approval, with the intent to be best indicators of potential project air quality impacts and/or to be locations of highest community concern. The monitoring shall meet all requirements contained in the San Luis Obispo Air Pollution Control District GUIDELINES FOR AMBIENT AIR QUALITY AND METEOROLOGICAL MONITORING, dated March 1993. Pre-Modernization Project monitoring shall occur at each of these sites for twelve months prior to turbine startup, with the length of the monitoring period and the startup date of monitoring subject to EPA approval.

At each of these sites, ambient air monitoring for the same parameters noted above shall be conducted continually until one year following the start of commercial operation of the Modernization Project.

The duration of this monitoring may be extended for one or both of the sites per EPA request, for up to three additional years. This extension may occur at each site if requested by EPA and justified by the monitoring data according to a protocol to be developed and agreed upon by both EPA and the Permittee.

**X. Agency Notifications**

All correspondence as required by this permit must be forwarded to:

1. Director, Air Division (Attn: AIR-5)  
U.S. EPA Region 9  
75 Hawthorne Street  
San Francisco, CA 94105-3901  
  
Email: [R9AEO@epa.gov](mailto:R9AEO@epa.gov)  
Fax: (415) 947-3579
2. Air Pollution Control Officer  
San Luis Obispo Air Pollution Control District  
3433 Roberto Court  
San Luis Obispo, CA 93401